List of Contents

NUMBER 1

Ling-Hui He and **Zhen-Qiang Cheng** — 1 Correspondence relations between the effective thermoelastic properties of composites reinforced by spherically anisotropic particles

A. A. Khdeir — 9 Dynamic response of antisymmetric cross-ply laminated composite beams with arbitrary boundary conditions

C. Atkinson and **J. P. Bourne** — 21 Non-linear diffusion controlled particle growth—a variational and asymptotic approach

Sharath S. Girimaji — 47 A study of turbulent combustion and its modeling using a diffusion reaction equation model

Anca Capatina and **Ruxandra Stavre** — 59 Optimal control of a non isothermal Navier–Stokes flow

Ruey-Bin Yang and **Ajit K. Mal** — 67 Elastic waves in a composite containing inhomogeneous fibers

Dominic G. B. Edelen — 81 A correct, globally defined solution of the screw dislocation problem in the gauge theory of defects

D. Philip and **Peeyush Chandra** — 87 Flow of Eringen fluid (simple microfluid) through an artery with mild stenosis

V. P. Levytskyi and **V. M. Onyshkevych** — 101 Plane contact problem with heat generation account of friction

D. A. S. Rees and **Andrew P. Bassom** — 113 The Blasius boundary-layer flow of a micropolar fluid

NUMBER 2

Lynn Schreyer Bennethum and **John H. Cushman** — 125 Multiscale, hybrid mixture theory for swelling systems—I: balance laws

Lynn Schreyer Bennethum and **John H. Cushman** — 147 Multiscale, hybrid mixture theory for swelling systems—II: constitutive theory

Jin H. Huang and **Tsung-Lin Wu** — 171 Analysis of hybrid multilayered piezoelectric plates

R. M. Shvets, R. M. Martynyak and **A. A. Kryshtafovych** — 183 Discontinuous contact of an anisotropic half-plane and a rigid base with disturbed surface

Sylvie Saintlos and **Jacques Mauss** 201 Asymptotic modelling for separating boundary layers in a channel

Gurpreet K. Gill and **S. K. Trehan** 213 Nonlinear instabilities in superposed fluids in the presence of adsorption

M. Teymur 227 Small but finite amplitude waves in a two-layered incompressible elastic medium

Ming Yin, Feng Shi and **Zhong Xu** 243 Renormalization group based k–ε turbulence model for flows in a duct with strong curvature

NUMBER 3

H. Cohen and **G. P. Mac Sithigh** 249 Collisions of pseudo-rigid bodies: a Brach-type treatment

Hilmi Demiray and **Sadik Dost** 257 The effect of quadrupole on bone remodeling

Mujibur Rahman 269 Time-harmonic body force loading of a mode-II penny-shaped crack in an elastic solid

Nikos D. Kadianakis 289 The kinematics of continua and the concept of connection on classical space–time

S. Chiriţă and **R. Quintanilla** 299 Spatial decay estimates of Saint-Venant type in generalized thermoelasticity

Márcio A. Murad and **John H. Cushman** 313 Multiscale flow and deformation in hydrophilic swelling porous media

K. C. Le and **H. Stumpf** 339 Nonlinear continuum theory of dislocations

Evgeny A. Novikov 359 Velocity circulations in free-surface flows

E. Soós 363 Resonance and stress concentration in a prestressed elastic solid containing a crack. An apparent paradox

NUMBER 4

P. Connor and **R. W. Ogden** 375 The influence of shear strain and hydrostatic stress on stability and elastic waves in a layer

R. Sekar, G. Vaidyanathan and **A. Ramanathan** 399 Ferroconvection in an anisotropic porous medium

Tsan-Hui Hsu and **Cha'o-Kuang Chen** 407 Natural convection of micropolar fluids in a rectangular enclosure

Liqiu Wang 417 A decomposition theorem of motion

W. Frydrychowicz and **A. P. S. Selvadurai** 425 On some aspects of a nonlinear convection–diffusion equation arising in heat-induced moisture transport in porous media

Edvige Pucci and **Antonino Risitano** 437 Bending of a pretwisted bar by terminal transverse load

S. C. Mellings and **M. H. Aliabadi** 453 Three-dimensional flaw identification using inverse analysis

Ioan R. Ionescu and **Jean-Claude Paumier** 471 On the contact problem with slip displacement dependent friction in elastostatics

Announcements 493

NUMBER 5

C. Vallée and **D. Fortuné** 495 Compatibility equations in shell theory

K. Vijayakumar and **O. P. Bhutani** 501 Similarity reductions and Painleve analysis for the nonlinear Boltzmann equation

Keo-Zoo Liang and **Fuang-Yuan Huang** 509 Boundary element method for micropolar elasticity

Kurt Frischmuth, Paul Visocky and **Peter Gründler** 523 On modelling heat transfer in chemical microsensors

S. Majid Hassanizadeh and **William G. Gray** 531 Comment on "On multicomponent, multiphase thermomechanics with interfaces" by S. Achanta, J. H. Cushman and M. R. Okos, *Int. J. Engng Sci.* **32,** 1717–1738 (1994)

S. Achanta, J. H. Cushman and **M. R. Okos** 535 Authors' reply to the comment of S. Majid Hassanizadeh and William G. Gray

Oleg Yu. Zharii 537 An exact solution of a time-dependent frictional contact problem for two elastic spheres

S. Sieniutycz and **S. K. Ratkje** 549 Variational principle for entropy in electrochemical transport phenomena

Ömer Yavaş and **Nuri Akkaş** 561 Chaos in planar oscillations of a Toda particle

J. C. Misra, N. C. Chattopadhyay and **S. C. Samanta** 579 Study of the thermoelastic interactions in an elastic half space subjected to a ramp-type heating—a state-space approach

Announcement 597

NUMBER 6

A. H. Nayfeh and **H. T. Abu-Khajeel** 599 Effect of a hump on the stability of subsonic boundary layers over an airfoil

L. J. Walpole	629	An elastic singularity in joined half-spaces
C. Atkinson and **C. Y. Chen**	639	The influence of layer thickness on the stress intensity factor of a crack lying in an elastic (viscoelastic) layer embedded in a different elastic (viscoelastic) medium (mode III analysis)
A. Ridha	659	Three-dimensional mixed convection laminar boundary-layer near a plane of symmetry
H. Trumel, A. Fanget and **A. Dragon**	677	A finite strain elastic–plastic model for the quasi-static behaviour of particulate composites
Joseph J. Gorski and **Peter S. Bernard**	699	Modeling of the turbulent enstrophy equation
M. J. Voss and **H. L. Tsai**	715	Effects of the rate of latent heat release on fluid flow and solidification patterns during alloy solidification

NUMBER 7

L. V. Gibiansky and **S. Torquato**	739	Phase-interchange relations for the elastic moduli of two-phase composites
Yigong Ni and **E. Bruce Pitman**	761	Traveling waves in a relaxation system
G. Aşkar Altay and **M. Cengiz Dökmeci**	769	Fundamental variational equations of discontinuous thermopiezoelectric fields
Marius Cocu, Elaine Pratt and **Michel Raous**	783	Formulation and approximation of quasistatic frictional contact
Adriana Maria Gonzalez and **Domingo Alberto Tarzia**	799	Determination of unknown coefficients of a semi-infinite material through a simple mushy zone model for the two-phase Stefan problem
Yi-Heng Chen	819	On the contribution of discontinuities in a near-tip stress field to the J-integral
J. S. Vakalis and **K. Loparo**	831	Configuration space of a body moving on a surface and the kinematics of rolling
Announcement	851	

NUMBER 8

G. A. Rogerson and **K. J. Sandiford**	853	On small amplitude vibrations of pre-stressed laminates
Shankar Krishnaswamy	873	A Cosserat-type model for the red blood cell wall

Jinho Lee and **Ki-Young Hwang** 901 A hybrid numerical analysis of heat transfer and thermal stress in a solidifying body using FVM and FEM

Monika Wagrowska and **Czesław Woźniak** 923 On the modelling of dynamic problems for viscoelastic composites

R. Artan 933 Unsymmetrical rigid stamp on a nonlocal elastic half-plane

R. Artan 943 Nonlocal elastic half plane loaded by a concentrated force

A. A. Yevtushenko and **R. B. Chapovska** 951 A fast-moving heated half-cylinder over the surface of a half-space

Ahmed E. Radwan 963 Magnetohydrodynamic instability of an annular gas jet of double perturbed interfaces

Announcements 975

NUMBER 9

Pierre Seppecher 977 Moving contact lines in the Cahn–Hilliard theory

Ziya Soyuçok 993 Infinitesimal deformations of surfaces and the stress distribution on some membranes under constant inner pressure

K. R. Rajagopal, **C. E. Maneschy** and **M. Massoudi** 1005 Inhomogeneous deformations in finite thermo-elasticity

W. J. Vankan, **J. M. Huyghe**, **J. D. Janssen** and **A. Huson** 1019 Poroelasticity of saturated solids with an application to blood perfusion

A. I. Leonov and **J. Padovan** 1033 On a kinetic formulation of elasto-viscoplasticity

S. C. Mandal and **A. Chakrabarti** 1047 Moving punch on a two-layered viscoelastic medium

Shaw-Wen Liu, **Jen-Chun Sung** and **Ching-Sen Chang** 1059 Transient scattering of Rayleigh waves by surface-breaking and sub-surface cracks

Renu Bajaj and **S. K. Malik** 1077 Pattern selection in magnetic fluids with surface adsorption

A. G. Madera 1093 Heat transfer from an extended surface at a stochastic heat-transfer coefficient and stochastic environmental temperature

NUMBER 10

R. Drouot and **M. Berrajaa** 1101 Wall effects for dilute polymer solutions in Poiseuille flow

A. I. Murdoch and **D. Bedeaux**	1111	A microscopic perspective on the physical foundations of continuum mechanics—Part I: Macroscopic states, reproducibility, and macroscopic statistics, at prescribed scales of length and time
E. Schlangen and **E. J. Garboczi**	1131	New method for simulating fracture using an elastically uniform random geometry lattice
R. K. Dash, K. N. Metha and **G. Jayaraman**	1145	Casson fluid flow in a pipe filled with a homogeneous porous medium
K. Vijayakumar	1157	Isogroup classification of equations of meteorology
Alan R. Elcrat and **Chenglie Hu**	1165	Determination of surface and interior cracks from electrostatic measurements using Schwarz–Christoffel transformations
S. S. Elshekh, M. K. Abd Elhady and **F. N. Ibrahim**	1183	Fluid film squeezed between two rotating disks in the presence of a magnetic field
T. J. Vandyke and **A. S. Wineman**	1197	Small amplitude sinusoidal disturbances superimposed on finite circular shear of a compressible, non-linearly elastic material
M. Marin	1211	Aspects of uniqueness in thermoelasticity of micropolar bodies with internal state variables
		NUMBER 11
Yu. G. Yanovsky, Yu. A. Basistov and **Dennis A. Siginer**	1221	Linear inverse problems in viscoelastic continua and a minimax method for Fredholm equations of the first kind
Eren Erdoğan	1247	The diffraction of a whispering-gallery mode by a spherical soft–hard cap
H. Wong and **O. Simionescu**	1259	An analytical solution of thermoplastic thick-walled tube subject to internal heating and variable pressure, taking into account corner flow and nonzero initial stress
A. Chattopadhyay and **S. Saha**	1271	Reflection and refraction of *P* waves at the interface of two monoclinic media
Eugenio Guglielmino and **Giuseppe Saccomandi**	1285	On the bending of pretwisted bars by a terminal transverse load
S. Bhattacharyya and **I. Pop**	1301	Free convection from cylinders of elliptic cross-section in micropolar fluids
Abdellatif Ouahsine	1311	Vertical structure and stability in a mathematical model of the ocean internal waves
G. R. Liu and **K. Y. Lam**	1327	Two-dimensional time-harmonic elastodynamic Green's functions for anisotropic media

NUMBER 12

A. Charalambopoulos, G. Dassios, D. I. Fotiadis, V. Kostopoulos and **C. V. Massalas** 1339 On the dynamic characteristics of the human skull

Ugo Andreaus and **Francesco dell'Isola** 1349 On thermokinematic analysis of pipe shaping in cast ingots: a numerical simulation via FDM

Ben Q. Li 1369 The effect of magnetic fields on low frequency oscillating natural convection

Abdel Raouf F. Elhefnawy 1385 Interfacial stability and nonlinear properties of electro-hydrodynamics

X. D. Wang and **S. A. Meguid** 1397 On the general treatment of interacting cracks near an interfacial crack

Ali J. Chamkha 1409 Compressible two-phase boundary-layer flow with finite particulate volume fraction

Ali J. Chamkha 1423 Solutions for fluid-particle flow and heat transfer in a porous channel

NUMBER 13

E. Smith 1441 The difference between the J_D and J_M crack growth resistance curves for a tensile loading situation

D. S. Chandrasekharaiah and **K. S. Srinath** 1447 One-dimensional waves in a thermoelastic half-space without energy dissipation

W. T. Ang and **Y. S. Park** 1457 Stresses around a periodic array of planar cracks in an anisotropic bimaterial

Anca Capatina and **Ruxandra Stavre** 1467 Numerical analysis of a control problem in heat conducting Navier–Stokes fluid

Guy Bayada and **Grzegorz Łukaszewicz** 1477 On micropolar fluids in the theory of lubrication. Rigorous derivation of an analogue of the Reynolds equation

Stefan Jan Kowalski 1491 Drying processes involving permanent deformations of dried materials

Chien-Ching Ma and **Yi-Shyong Ing** 1507 Transient wave analysis of an antiplane crack interaction with half-plane boundary

Hilmi Demiray 1519 Nonlinear waves in a prestressed thick elastic tube filled with an inviscid fluid

D. M. Haughton and **B. A. McKay** 1531 Wrinkling of inflated elastic cylindrical membranes under flexure

Letters in Applied and Engineering Sciences

Ted L. Wilkinson, John Peddieson Jr and **Sastry S. Munukutla** 1551 An exact solution for unsteady duct flow due to a moving center body

Announcements 1561

NUMBER 14

Y. Z. Chen 1563 Image method for Green's function of anisotropic half-plane with inclined boundary

Ridha Abid and **Jamal A. Masad** 1573 Effect of localized cooling on laminar flow

Chang-Qing Chen and **Ya-Peng Shen** 1585 Piezothermoelasticity analysis for a circular cylindrical shell under the state of axisymmetric deformation

Ludovico Nappa 1601 Decay estimates for micropolar elastic cylinders

Lynn Schreyer Bennethum, John H. Cushman and **Márcio A. Murad** 1611 Clarifying mixture theory and the macroscale chemical potential for porous media

Yian-Tai Hu and **Yu-Ying Huang** 1623 Periodic inclusions in anisotropic elasticity

T. L. Sayre and **D. N. Riahi** 1631 Effect of rotation on flow instabilities during solidification of a binary alloy

E. Soós 1647 Stability, resonance and stress concentration in prestressed piezoelectric crystals containing a crack

Ke-Lin Pan 1675 Interaction of a dislocation and an inclusion in nonlocal elasticity

NUMBER 15

N. H. Scott 1689 Connections between deformation–temperature and deformation–entropy constraints and near-constraints in thermoelasticity

Z.-H. Jin and **R. C. Batra** 1705 Interface cracking between functionally graded coatings and a substrate under antiplane shear

P. Steinmann 1717 Views on multiplicative elastoplasticity and the continuum theory of dislocations

Shu-Ang Zhou 1737 Modelling of anisotropic superconducting waveguide as equivalent transmission line

V. I. Fabrikant 1753 Interaction of an arbitrary force with a flexible punch or with an external circular crack

Richard B. Hetnarski and **Jósef Ignaczak** 1767 Soliton-like waves in a low-temperature nonlinear thermoelastic solid

Y. S. Lee, S. T. Kim, S. C. Hwang and **T. J. Batt** 1789 Stress relaxation in the interface between creep particle and elastic matrix-strengthening mechanism

Abou El Magd A. Mohamed, Elsayed F. A. Elshehawey and **Yusry O. El-Dib** 1811 Electroviscoelastic stability of a Kelvin fluid layer

Index to Volume 34 (1996) I